



TENTATIVE DATA MODEL 331A 10 TO 20,000 CPS NOISE GENERATOR

In many areas of science, engineering, medical research, and manufacturing there occur situations requiring a dependable source of audio frequency noise with very stable statistical characteristics. The Model 331A Noise Generator was specifically designed to provide such a source.

The Model 331A Noise Generator employs two grid-controlled gas thyratrons in transverse magnetic fields as primary noise sources. The noise from the two noise sources is combined in a unique circuit to provide noise with greatly improved characteristics. This noise is fed into a shaping amplifier which equalizes the noise tube characteristics. The noise is then passed through a precision regulator circuit which continuously stabilizes its output against a zener reference voltage. The resulting noise voltage is passed through a continuously variable attenuator and feedback amplifier whose output has a constant "white" noise spectrum from 10 to 20,000 cps.

SPECIFICATIONS

OUTPUT SPECTRUM

Uniform to plus or minus 0.5 db from 10 to 20,000 cps. Also available with a 10 to 2,000 cps, 10 to 5,000 cps, 10 to 500,000 cps, 10 to 200,000 cps, or 10 to 500,000 cps output.

OUTPUT LEVEL

0 to 5 volts RMS, adjustable by self contained attenuator. Adynamic range of 7 to 1 peak to RMS value is provided.

SPECTRAL DENSITY

Approximately 1×10^{-3} (volts)² per cps for 5 volt rms output.

AMPLITUDE PROBABILITY DISTRIBUTION

Gaussian (Normal) to plus or minus one percent with zero mean.

NOISE REGULATOR

RMS output level continuously stabilized against a zener reference voltage. Output regulation $\pm 0.1\%$ for input range of 2 to 1. Regulation range is greater than 4 to 1.

OVERLOAD INDICATOR

Panel overload indicator lights when input noise level to regulator is out of regulation range.

OUTPUT METER

Meter reads 0 to 5 volts RMS

MAXIMUM OUTPUT LOAD

10,000 ohms.

OUTPUT IMPEDANCE

Less than 10 ohms.

OUTPUT CONNECTOR

BNC

POWER SUPPLY

Built-in highly regulated plate and filament supplies.

POWER REQUIREMENTS

115/230 volts plus or minus 10/20 volts. 50 to 1,000 cycles AC at 80 watts.

COLOR

Rack panel is flat grey.

MOUNTING

Mounted on standard relay rack panel 7" high x 19" wide and is 15" deep. Can be supplied in deluxe metal cabinet.

SHIPPING WEIGHT

Approximately 50 lbs.



LOW FREQUENCY TUBE TYPE

ELGENCO NOISE GENERATORS



AMPLITUDE PROBABILITY DISTRIBUTION: Gaussian \pm 1%. OUTPUT SPECTRUM: Uniform \pm 0.1 db from 0 to 35 cps. MAX. OUTPUT: 12_volts_rms_into_a=1 megohm_input resistance. Dynamic range of 5 to 1 peak-to-rms is provided. MAX. SPECTRAL DENSITY: Approx. 2.5 volts²/cps. D.C. UNBALANCE: Less than 50 mv. POWER: 115 v \pm 10 v, 60 cps ac. MOUNTING: Standard relay rack panel 7" high x 19" wide. COLOR: Rack panel in flat grey. SHIPPING WEIGHT: Approx. 40 lbs.

321A

\$2095

AMPLITUDE PROBABILITY DISTRIBUTION: Gaussian \pm 1%. OUTPUT SPECTRUM: Uniform \pm 0.1 db from 0 to 105 cps. MAX. OUTPUT: 12 volts rms into a 1 megohm input resistance. Dynamic range of 5 to 1 peak-to-rms is provided. MAX. SPECTRAL DENSITY: Approx. 1.0 volts²/cps. D.C. UNBALANCE: Less than 50 mv. POWER: 115 v \pm 10 v, 60 cycles ac. MOUNTING: Standard relay rack panel 7" high x 19" wide. COLOR: Rack panel in flat grey. SHIPPING WEIGHT: 40 lbs.

GENERAL PURPOSE TUBE TYPE

ELGENCO NOISE GENERATORS



OUTPUT SPECTRUM: Uniform to plus or minus 0.5 db from 10 to 20.000 cps.

OUTPUT LEVEL: 0 to 5-volts rms, adjustable by self-contained attenuator. A dynamic range of 7 to 1 peak to rms value is provided.

SPECTRAL DENSITY: Approx. 1 mv/vcps for 5 volt rms output.

AMPLITUDE PROBABILITY DISTRIBUTION: Gaussian ± 1%.

NOISE REGULATOR: rms output level continuously stabilized against a zener reference voltage. Output regulation \pm 0.1% for input range of 2 to 1. Regulation range is greater than 4 to 1.

OVERLOAD INDICATOR: Panel overload indicator lights when input noise level to regulator is out of regulation range.

OUTPUT METER: 0 to 5 volts rms.

MAX, LOAD: 10,000 ohms.

OUTPUT IMPEDANCE: Less than 10 ohms.

POWER REQUIREMENTS: 115/230 volts \pm 10/20 volts. 50 to 1,000 cycles AC.

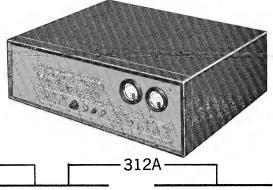
COLOR: Rack panel is flat grey.

MOUNTING: Standard relay rack panel 7" high x 19" wide and is 15" deep. Can be supplied in deluxe metal cabinet.

SHIPPING WEIGHT: Approx. 50 lbs.

\$1395	10 cps to 2 kc	331A-23
\$1395	10 cps to 5 kc	331A-53
\$1395	10 cps to 50 kc	331A-54
\$1495	10 cps to 200 kc	331A-25
\$1645	10 cps to 500 kc	331A-55





Amp. Probability Dist. Output Spectrum Max. Output Max. Spectral Density DC Unbalance Output Load Power Mounting

Color Shipping Weight Gaussian ± 1%
Uniform ± :1 db 0 to 35 cps
12 volts rms
2.5 (volts)²/cps approx.
Less than 50 mv
1 megohm minimum
115v ± 10v, 50/60 cps at 90 watts
Standard relay rack 7" high x
19" long or deluxe cabinet
Rack panel is flat grey
Approximately 45 lbs.

Gaussian \pm 2% Uniform \pm .5 db, 10 cps to 20 kc 15 volts rms 7.5 (mv) 2 /cps approx.

100k ohms minimum

Gaussian \pm 1% Uniform \pm 0.1 db 0 to 105 cps 12 volts rms 1.0 (volts) $\frac{1}{2}$ cps approx. Less than 50 mv 1 megohm minimum

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